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" THE STUDY OF HEAT TREATMENT ACTIVITIES IN MALAYSIA "

PREFACE.

This final project report entitled "The Study of Heat Treatment Activities in Malaysia". The research was conducted out for a duration of six months. It was started in the middle of October 1993 and ended in the end of March 1994. This study is all directed to give the ides of how advance and the development of the heat treatment activities as well as methods in Malaysia.

Besides that, it shows how importance is the process which based on the physical metallurgical principles, for exmples processing, properties and structures. Furthermore, from the historical point of view, heat treatment has been pratised by man since the time he has learnt to smell and handle metals. In ancient times, when high temperatures to produce iron and steel in liquid form were not available, iron was obtained by solid state reduction, what we call as sponge iron today. The lumps were forged together by heating to red-hot or yellow-hot stage to make usable forms and shapes. The hot working was repeated to give quality. What was being done was essentially a homoge-nization of composition, was call annealing today.

First liquid steel with usable quality was produced by 'crucible process' by Benjamin Hustman around 1735. This became the chief process of steel making up to the advent of Bassemer and open-hearth processes in the middle of 19th century. it leads to an increasing use of steel in engineering the consequent spread of the art of heat treatment.

Last but not least, the study is to accumulate as many data as possible about the activities in Malaysia through the questionaires and present them in the form of charts and graphs. As a result we can observe easily how the activities are developing as well as its importance to our country.

A point to bear in mind is that, all statements, data, assumptions, graphs and measurements are based on the information gathered from the questionaires. articles written by earlier researchers and visits made to a number of firms during carrying out this research.

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